

**WHAT IS CLAIMED IS:**

Sub 1. A mobile voice communication method for enabling a mobile host to proceed a voice call with a communication terminal via Internet and cellular networks, said mobile host being connected to said communication terminal through a first mobile switching center of the cellular network, a first gateway at a near end of the Internet, and a second gateway at a far end of the Internet, said method comprising the steps of:

comparing, when said mobile host roams from an area controlled by said first mobile switching center to an area controlled by a second mobile switching center, said first gateway that is connected to said first mobile switching center with a third gateway that is connected to said second mobile switching center; and

invoking, if said third gateway and said first gateway are different, a call transfer procedure from said third gateway to said first gateway to establish a connection between said second gateway and said third gateway, and release a connection between said first gateway and said second gateway.

2. The mobile voice communication method as claimed in claim 1, wherein, before initiating said call transfer procedure, said second mobile switching center sends a location update indication with information of said first gateway to said third gateway for updating location information.

3. The mobile voice communication method as claimed in claim 2, wherein said third gateway is operatively connected to a gatekeeper, and, when receiving said location update indication, said third gateway initiates registration request and confirmation, and admission request and confirmation exchanges with said gatekeeper.

4. The mobile voice communication method as claimed in claim 1,

wherein said call transfer procedure is invoked by said third gateway in a facility message to said first gateway.

5. The mobile voice communication method as claimed in claim 4, wherein said call transfer procedure comprises:

5       said first gateway sending a facility message with call transfer initiate invocation to said second gateway;

      said second gateway sending a setup message with call transfer setup invocation to said third gateway when receiving said facility message;

10       said third gateway returning a connect message with call transfer result to said second gateway;

      said second gateway issuing a release complete message with call transfer return result to said first gateway; and

      said first gateway forwarding said release complete message to said third gateway when receiving said release complete message.

15       6. The mobile voice communication method as claimed in claim 5, wherein said first gateway is operatively connected to a gatekeeper, and, when said call transfer procedure is completed, said first gateway initiates disengage request and confirmation, and unregister request and confirmation exchanges with said gatekeeper.

20       7. The mobile voice communication method as claimed in claim 1, wherein, if said third gateway and said first gateway are identical, a regular location update procedure for mobile communication is performed.

25       8. A mobile voice communication system for enabling a mobile host to proceed a voice call with a communication terminal via Internet and cellular networks, comprising:

      a plurality of mobile switching centers, provided by the cellular network for enabling said mobile host to establish a call connection; and

a plurality of gateways, provided by the Internet for connecting to the mobile switching centers,

wherein said mobile host is connected to said communication terminal through a first mobile switching center of the cellular network, a first gateway at a near end of the Internet, and a second gateway at a far end of the Internet, and when said mobile host roams from an area controlled by said first mobile switching center to an area controlled by a second mobile switching center, and said first gateway that is connected to said first mobile switching center is different from a third gateway that is connected to said second mobile switching center, said third gateway invokes a call transfer procedure to said first gateway, so as to establish a connection between said second gateway and said third gateway, and release a connection between said first gateway and said second gateway.

9. The mobile voice communication system as claimed in claim 8, wherein, before initiating said call transfer procedure, said second mobile switching center sends a location update indication with information of said first gateway to said third gateway for updating location information.

10. The mobile voice communication system as claimed in claim 9, wherein said third gateway is operatively connected to a gatekeeper, and, when receiving said location update indication, said third gateway initiates registration request and confirmation, and admission request and confirmation exchanges with said gatekeeper.

11. The mobile voice communication system as claimed in claim 8, wherein said call transfer procedure is invoked by said third gateway in a facility message to said first gateway.

12. The mobile voice communication system as claimed in claim 11, wherein said first gateway is operatively connected to a gatekeeper, and,

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when said call transfer procedure is completed, said first gateway initiates disengage request and confirmation, and unregister request and confirmation exchanges with said gatekeeper.

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